

# SAFETY PRECAUTIONS

## GENERAL GUIDELINES

1. When servicing, observe the original lead dress. If a short circuit is found, replace all part which have been overheated or damaged by the short circuit.
2. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
3. After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.

## LEAKAGE CURRENT COLD CHECK

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Measure the resistance value, with an ohm meter, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. The resistance value must be more than  $5M\Omega$ .

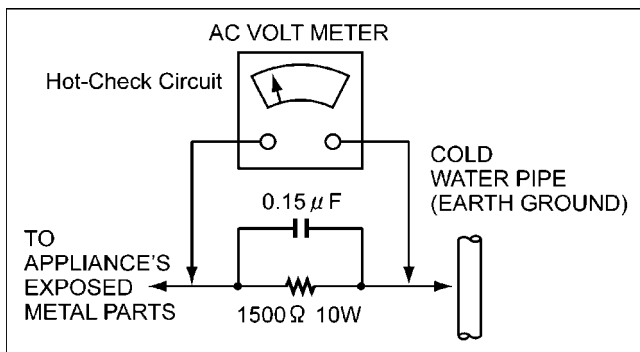


Figure1

## LEAKAGE CURRENT HOT CHECK (See Figure 1)

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a  $1.5k\Omega$ , 10W resistor, in parallel with a  $0.15\mu F$  capacitor, between each exposed metallic part on the set and a good earth ground such as a water pipe, as shown in Figure1.
3. Use an AC voltmeter, with 1000 ohms/volt or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet repeat each of the above measurements.
6. The potential at any point should not exceed 0.15 volts RMS. A leakage current tester (Simpson Model 229 equivalent) may be used to make the hot checks, leakage current must not exceed 0.1 milliamp. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.

## ELECTROSTATICALLY SENSITIVE (ES) DEVICES

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically sensitive (ED) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground.  
Alternatively, obtain and wear a commercially available discharging wrist trap device, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder removal device classified as "anti-static" can generate electrical charges sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it.  
(most replacement ES devices are package with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.  
CAUTION : Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.
8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device).

## X-RADIATION

### WARNING

1. The potential source of X-radiation in EVF sets is the High Voltage section and the picture tube.
2. When using a picture tube test jig for service, ensure that jig is capable of handling 10kV without causing X-Radiation.

**Note :** It is important to use an accurate periodically calibrated high voltage meter.

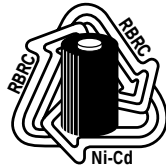
3. Measure the High Voltage. The meter (electric type) reading should indicate  $2.5kV \pm 0.15kV$ . If the meter indication is out of tolerance, immediate service and correction is required to prevent the possibility of premature component failure. To prevent an X-Radiation possibility, it is essential to use the specified picture tube.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (service) instructions in the literature accompanying the appliance.

**ATTENTION:**

The product you have purchased is powered by a nickel cadmium battery which is recyclable. At the end of its useful life, under various state and local laws, it is illegal to dispose of this battery into your municipal waste stream. Please call 1-800-8-BATTERY for information on how to recycle this battery.

**Memory Back-up Battery**

Replace battery with part No. CR2032 only. Use of another battery may present a risk of fire or explosion.  
Caution—Battery may explode if mistreated. Do not recharge, disassemble or dispose of in fire.

**FCC NOTE:**

This device complies with Part 15 of the FCC Rules. To assure continued compliance follow the attached installation instructions and do not make any unauthorized modifications.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

**CAUTION:**

**TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD AND ANNOYING INTERFERENCE, USE THE RECOMMENDED ACCESSORIES ONLY.**

**WARNING:**

**TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.**

**CAUTION:**

**TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD, REFER MOUNTING OF THE OPTIONAL BOARD TO AUTHORIZED SERVICE PERSONNEL.**

 is the safety information.

**■ DO NOT REMOVE PANEL COVER BY UNSCREWING.**

To reduce the risk of the electric shock, do not remove cover. No user serviceable parts inside. Refer servicing to qualified service personnel.

**CAUTION:**

**TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD, REFER MOUNTING OF THE OPTIONAL BOARD TO AUTHORIZED SERVICE PERSONNEL.**

**WARNING:**

**TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.**

**CAUTION:**

**TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD AND ANNOYING INTERFERENCE, USE THE RECOMMENDED ACCESSORIES ONLY.**

**Lithium Battery****Warning**

The lithium battery in this equipment must only be replaced by qualified personnel. When necessary, contact your local Panasonic supplier.

"The lithium battery is a critical component (type number CR2032 manufactured by Panasonic).

It must never be subjected to excessive heat or discharge. It must therefore only be fitted in equipment designed specifically for its use.

Replacement batteries must be of the same type and manufacturer. They must be fitted in the same manner and location as the original battery, with the correct polarity connections observed.

Do not attempt to re-charge the old battery or re-use it for any other purpose. It should be disposed of in waste products destined for burial rather than incineration."

**CAUTION**

Danger of explosion if battery is incorrectly replaced.

Replace only with the same or equivalent type recommended by the equipment manufacturer. Discard used batteries according to manufacturer's instructions.

**VARNING**

Explosionsfara vid felaktigt batteribyte.

Använd samma batterityp eller en ekvivalent typ som rekommenderas av apparattillverkaren. Kasserat använt batteri enligt fabrikantens instruktion.

**ADVARSEL!**

Eksplodingsfare ved fejlagtig håndtering.

Udskiftning må kun ske med batteri af samme fabrikat og type. Levér det brugte batteri tilbage til leverandøren.

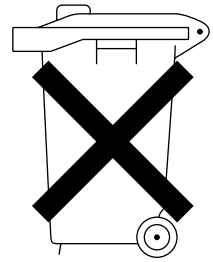
**VAROITUS**

Paristo voi räjähtää, jos se on virheellisesti asennettu.

Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

## Attention/Attentie

- Batteries are used for the main power source and memory back-up in the product.  
At the end of their useful life, you should not throw them away.  
Instead, hand them in as small chemical waste.
- Voor de primaire voeding en het reservegeheugen van het apparaat wordt gebruikgemaakt van een batterij.  
Wanneer de batterij is uitgeput, mag u deze niet gewoon weggooien, maar dient u deze als klein chemisch afval weg te doen.

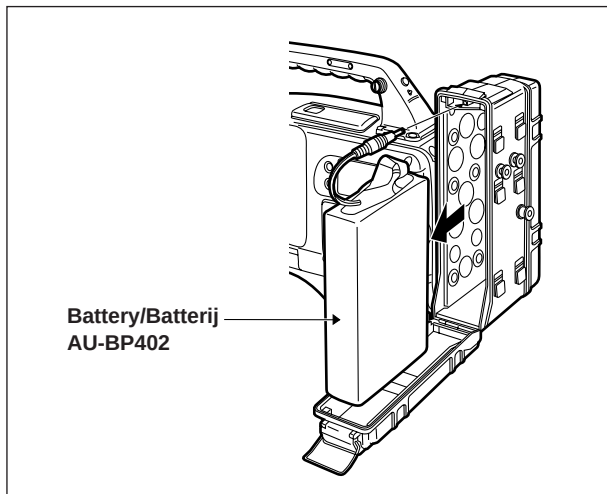


## To remove the battery/Verwijderen van de batterij

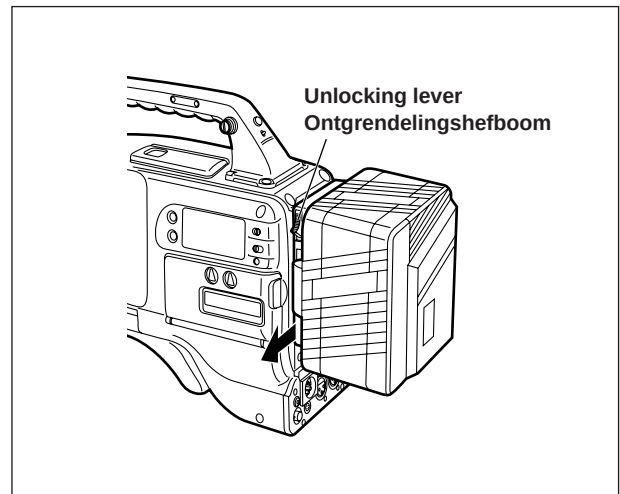
### Main Power Battery (Ni-Cd Battery)

### Batterij Voor Primaire Voeding (Nikkelcadmiumbatterij)

Battery/Batterij AU-BP402



Anton/Bauer Battery  
Anton/Bauer-Batterij

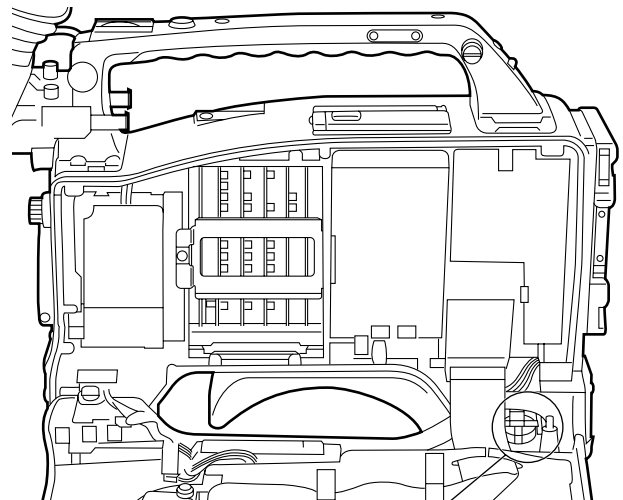


- If a battery made by any other manufacturer is to be used, check the Operating Instructions accompanying the battery.
- In geval u een batterij van een anden fabrikant zou gebruiken, gelieve dan eerst zorgvuldig de gebruiksaanwijzing van deze batterij te lezen.

### Back-up Battery (Lithium Battery)

### Batterij Voor Reservegeheugen (Lithiumbatterij)

- For the removal of the battery for disposal at the end of its service life, please consult your dealer.
- Raadpleeg uw leverancier over de verwijdering van de batterij op het moment dat u het apparaat bij einde levensduur afdankt.



Back-up Battery (Lithium Battery)  
Batterij Voor Reservegeheugen (Lithiumbatterij)